

IN THE SPECIFICATION

Please amend paragraph [0019] as follows:

[0019] According to the present invention, there is provided a radio communication method for a radio communication system in which output signals are generated from a plurality of information signals and then transmitted to a system of a communication partner from a plurality of antennas, comprising: receiving control information transmitted by the system of the communication partner; determining, based on the received control information, a first weight corresponding to the plurality of antennas for one of the plurality of information signals modulated by a first modulation scheme and encoded by a first encoding method, and a second weight corresponding to the plurality of antennas for another one of the plurality of information signals modulated by a second modulation scheme and encoded by a second encoding method; generating a first operation result by multiplying the one of the plurality of information signals by the first weight, and generating a second operation result by multiplying the another one of the plurality of information signals by the second weight; and generating, based on the first operation result and the second operation result, a plurality of the output signals each corresponding to one of the plurality of antennas, and transmitting the plurality of the output signals to the system of the communication partner, wherein the control information comprises a weight-related-information on the first and second weight and a transmission format information, on modulation scheme and encoding method, corresponding to the weight-related-information, the modulation scheme and encoding method corresponding to the transmission format information being determined based on the signal quality calculated on the assumption that the output signals of the plurality of antennas are generated utilizing the weights corresponding to the weight-related-information and transmitted simultaneously transmission control method for a MIMO system

~~including a radio transmitter apparatus having a plurality of antennas and a radio receiver apparatus having a plurality of antennas for transmitting a plurality of signals to each other through SDM, the method including the steps of: sending a pilot signal by the radio transmitter apparatus; receiving the pilot signal and estimating transmission related information corresponding to the pilot signal by the radio receiver apparatus; selecting a transmission signal to be used in the radio transmitter apparatus based on the estimated transmission related information; notifying the radio transmitter apparatus of a control signal describing the transmission signal to be used; and selecting an antenna to be used based on the control signal and sending the information signal from the selected antenna to the radio receiver apparatus, by the radio transmitter apparatus.~~

Please amend paragraph [0020] as follows:

[0020] Also, according to the present invention, there is provided a radio communication system in which output signals are generated from a plurality of information signals and then transmitted to a system of a communication partner from a plurality of antennas, comprising: a reception device for receiving control information transmitted by the system of the communication partner; a weight determining device for determining, based on the received control information, a first weight corresponding to the plurality of antennas for one of the plurality of information signals modulated by a first modulation scheme and encoded by a first encoding method, and a second weight corresponding to the plurality of antennas for another one of the plurality of information signals modulated by a second modulation scheme and encoded by a second encoding method; an operation device for generating a first operation result by multiplying the one of the plurality of information signals by the first weight, and generating a second operation result by multiplying the another one of the plurality of information signals by the second weight; and a transmission

device for generating, based on the first operation result and the second operation result, a plurality of the output signals each corresponding to one of the plurality of antennas, and transmitting the plurality of the output signals to the system of the communication partner, wherein the control information comprises a weight-related-information on the first and second weight and a transmission format information, on modulation scheme and encoding method, corresponding to the weight-related-information, the modulation scheme and encoding method corresponding to the transmission format information being determined based on the signal quality calculated on the assumption that the output signals of the plurality of antennas are generated utilizing the weights corresponding to the weight-related-information and transmitted simultaneously ~~receiver apparatus for transmitting a signal with respect to a radio transmitter apparatus through SDM, including: a plurality of antennas for receiving a pilot signal sent from the radio transmitter apparatus; a pilot signal detecting part for estimating transmission related information corresponding to the pilot signal received at the plurality of antennas; a transmission signal determining part for selecting a transmission signal to be used in the radio transmitter apparatus, based on the transmission related information estimated by the pilot signal detecting part; and a control information transmitting part for notifying the radio transmitter apparatus of a control signal describing the transmission signals to be used selected by the transmission signal determining part.~~

Please delete paragraphs [0021]-[0024] in their entirety as follows:

[0021] ~~Further, according to the present invention, there is provided a radio transmitter apparatus for transmitting a signal with respect to a radio receiver apparatus through SDM, including: a signal sending part for sending pilot signals from a plurality of antennas to the radio receiver apparatus; a control information receiving part for receiving, from the radio receiver apparatus, a control signal describing a transmission signal to be used selected by the~~

~~radio receiver apparatus based on the transmission related information corresponding to the pilot signal ; and a transmission signal determining part for selecting an antenna to be used, based on the control signal received by the control information receiving part, in which the signal sending part sends an information signal from the antenna selected by the transmission signal determining part to the radio receiver apparatus.~~

~~Effects of the Invention~~

[0022] According to a radio transmission control method of the present invention, a radio receiver apparatus selects a transmission signal to be used based on a pilot signal from a radio transmitter apparatus and notifies the radio transmitter apparatus of the transmission signal, and the radio transmitter apparatus sends an information signal to the radio receiver apparatus based on the transmission signal to be used. Therefore, the radio receiver apparatus can receive an information signal that can be separated smoothly, and a transmission efficiency can be enhanced.

[0023] Furthermore, a radio receiver apparatus of the present invention detects transmission related information corresponding to a pilot signal sent from a radio transmitter apparatus, selects a transmission signal to be used based on the detected information, and notifies the radio transmitter apparatus of the selected transmission signal. Therefore, an information signal that can be separated smoothly in accordance with a propagation environment, the number of transmission/reception antennas, and the like, can be received, and a transmission efficiency can be enhanced.

[0024] Furthermore, a radio transmitter apparatus of the present invention sends a pilot signal from a plurality of antennas, receives a transmission signal to be used, which is selected by a receiver based on transmission related information corresponding to the pilot signal, and sends an information signal with the transmission signal to be used. Therefore, on the radio

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~~receiver apparatus side, an information signal that can be separated smoothly in accordance with a propagation environment, the number of transmission/reception antennas, and the like, can be received, and a transmission efficiency can be enhanced.~~

Please cancel the existing Abstract and insert therefor the following new Abstract as follows: